



## Signal Hill Petroglyphs

### Introduction

Just north of the Signal Hill picnic area is the largest petroglyph site in the Tucson Mountain District of Saguaro National Park (SNP). The Signal Hill Petroglyph Site occupies a small but very distinct rocky hill (see photograph, page 2) that is about 200 feet in diameter at its base and is 40 feet high. The site consists of over 200 prehistoric Native American petroglyphs many of which can be viewed from the visitor trail that ascends the hill (including the spiral design in the photograph at right).

These petroglyphs were created from between about 550 to 1550 years ago. Petroglyphs, which fall under the common, all-inclusive term “rock art”, are a global phenomenon. The oldest known rock art are cave paintings found in Europe, Australia, Asia and Africa that date from the Upper Paleolithic period, 35,000 to 40,000 years ago.<sup>1</sup>

### Petroglyphs

There are two principle categories of rock art, petroglyphs, which are carved into the rock surface, and pictographs, which are painted onto the surface.

There are a few examples of pictographs at SNP but none are accessible to the visitor. These pictographs tend to be small, painted in black or white paint, and are eroded and difficult to see.

Petroglyphs are images, geometric, anthropomorphic, zoomorphic, and others that defy categorizing, produced by removing part of a rock’s darker surface patina or desert varnish. Both representational and abstract designs can be seen in Hohokam petroglyphs. Petroglyphs are created by one of four techniques. They can be created with the use of a hammer stone, usually a fist sized stone held in the hand,



In this illustration the man is producing a petroglyph using the indirect percussion technique. This technique uses a hammer stone with a second rock used like a chisel to remove the rock surface.



**Spiral design petroglyph at the top of Signal Hill.**

usually a fist sized stone held in the hand, which is battered against the boulder or rock surface. Petroglyphs can also be pecked out through indirect percussion, as a second rock is used like a chisel between the hammer stone and the rock surface (see illustration at lower left). The third technique uses incision, or scratching, into the surface of the stone with a piece of chipped stone or other material that can render a fine line. Petroglyphs created in this way are fine lined, often not very deeply incised and often difficult to see. The fourth technique is abrasion. Much like the incision, or scratching technique, abrasion is where a hand-held stone is rubbed against the rock surface to create the image. Most of the prehistoric petroglyphs at Signal Hill seem to have been produced by pecking.

### Desert Varnish

The dark outer surface of the rock is a mineral patina called desert varnish. The varnish consists of thin layers of clay minerals stained by high concentrations of iron and manganese oxides. The clay minerals as well as the iron and manganese oxides settle as dust from the atmosphere. Micro-colonies of lichens and bacteria inhabit the varnish and oxidize the manganese. The lichen and bacteria anchor themselves to rock surfaces with the clay particles. In the process, the manganese becomes firmly attached to the clay and darkens it. Each time the rock surface is wetted by rain; more manganese and clay are added to sustain the slow growing colony. Older rock surfaces tend to be more heavily varnished and darker than younger surfaces.

As the process continues, Petroglyphs are re-varnished. Sometime the relative age of petroglyphs created on the same rock face can be distinguished by the difference in color of the re-varnished petroglyphs.<sup>2</sup>

## Signal Hill Petroglyphs

The petroglyphs at Signal Hill were made by the Hohokam, a people who lived in southern and south-central Arizona from about 450 to 1450 A.D. Direct dating of petroglyphs is difficult. Dating such a site as Signal Hill is usually done by dating artifacts associated with the petroglyphs and in this instance there are no well dated artifacts associated with Signal Hill.

What do the petroglyphs mean? What were the Hohokam trying to tell say? We usually do not try and interpret the images or assign specific meanings. Some meanings were not meant to be known or understood except by the person who made it. Some meanings were not meant to be known or understood by the uninitiated. Some images were possibly made for religious purposes. They probably all have a deep spiritual significance and may be considered prayers by some people. Current speculation has led some researchers to believe that some petroglyphs or pictographs may tell a story, mark a trail, or commemorate an event. Some images may have been made to ensure fertility or successful hunting, or may have also been used to keep track of the seasons (marking the equinoxes). In some instances the image may represent a clan or family.



**Petroglyphs, some representing deer or possibly sheep at Signal Hill.**

What an image appears to be on the surface though, may be very different from the meaning it had for the person who pecked the image into the rock. Today, when we examine the images carved on stone we can only speculate what their significance was. We may never know for sure what the maker intended and it is likely that meanings have been obscured by time and distance.<sup>3</sup>

Modern peoples have also been drawn to the Signal Hill petroglyph site. Noting the popularity of the site, the

Civilian Conservation Corps (CCC) created the Signal Hill picnic area and trails to the “old Indian hieroglyphics” in the 1930s. The Signal Hill picnic area was the largest picnic area built by the CCC in the Tucson Mountains.

## Viewing the Petroglyphs

When viewing the petroglyphs please stay on the designated trail and do not touch the petroglyphs; oils from your hands can actually damage the rock surface. Stepping on the rocks can dislodge petroglyph boulders as well as the petroglyph panels themselves. We invite you to take lots of photographs, but please don't leave any fingerprints.

Please do not scratch, write, or otherwise disfigure the petroglyphs or bare rocks on Signal Hill. This is considered vandalism and is punishable under state and Federal law. Modern initials and designs take away from the beauty of the petroglyphs and from the visitor experience. If you look carefully you can see areas that have been vandalized by inconsiderate visitors.



**Signal Hill looking north from the Signal Hill picnic area.**

<sup>1</sup> Ann Gibbons: Indonesian cave art may be world's oldest, in: *Science Magazine*. American Association for the Advancement of Science, Oct. 8, 2014.

<http://news.sciencemag.org/archaeology/2014/10/indonesian-cave-art-may-be-worlds-oldest>

<sup>2</sup> John V. Bezy 2005. A Guide to the Geology of Saguaro national park. Arizona Geological Survey, Down to earth 18. p.33

<sup>3</sup> <http://www.nps.gov/petr/planyourvisit/def.htm>

For more information contact:

Ronald Beckwith  
Archeologist  
Saguaro National Park  
3693 S. Old Spanish Trail  
Tucson, AZ 85730

ph: (520) 733-5160  
email: [ronald\\_beckwith@nps.gov](mailto:ronald_beckwith@nps.gov)